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SALMONELLA REPORTS

SALMONELLA IN THE RENDERING PLANT

Reports on Salmonella outbreaks indicate that feeds and feed ingredients are a possible source of infection to livestock and poultry. Listed below are two case reports from an ANH epidemiologist pointing out possible solutions to situations of this kind.

Case Report 1.--Plant A is a new rendering plant and is well designed and equipped to process animal byproducts into meat scrap meal for feeds. Raw material is received at one end of the continuous operation and conveyed by automatic equipment through the various stages of processing until the finished product is run into a storage bin at the far end of the plant. A sample of the final product was found positive for Salmonella. All earlier samples had been negative.

Investigation disclosed that the finished product was contaminated by floor sweepings. The plant management was advised to re-cook all floor sweepings, and the problem was eliminated. Now, management is making more changes to insure a Salmonella-free product.

Case Report 2.--Plant B had made several Salmonella isolations from the finished product. It is the rendering division of a highly integrated poultry operation. Poultry byproducts are processed into protein meal for feeds. Raw material is hauled to the rendering plant from a nearby poultry processing plant.

An investigation of the entire plant operation showed that the finished product moved into storage on an open conveyor. From above the conveyor, a spray of water fell on the finished product. The water was traced back to a raw-material receiving area--the source of contamination. A cover for this conveyor was recommended.

Also, in Plant B a partly covered conveyor of finished meal was exposed to flying feathers from a nearby feather dumping area. A blower used to move the finished meal into storage was located in a feather dumping area where air for the blower was drawn in near the floor. An aerosol of moisture could be drawn easily into the blower to contaminate the finished product.

Based on the epidemiologist's findings the management is now using corrective measures to eliminate in-plant contamination.

In recent years greatly increased numbers of Salmonella isolations from agricultural sources submitted to the National Animal Disease Laboratory, Ames Iowa, for serotyping have taxed existing facilities. Steps are being taken to assist in relieving this problem.

Additional serotyping services are now in operation in some regions.

Summary of Pullorum and Typhoid Isolations and Followup Investigation
(Figures in parentheses indicate number)

Regions	January					
	PULLORUM					Under 3 wks.
	Under 3 wks.	3 wks. to 5 mo.	Over 5 mo.	Age not reported	Total	
	<u>Number</u>	<u>Number</u>	<u>Number</u>	<u>Number</u>	<u>Number</u>	<u>Number</u>
N. Atlantic ²	1 (1)	5 (4)	13 (10)	2 (0)	21 (15)	0 (0)
E. N. Central ³	3 (2)	4 (3)	4 (4)	0 (0)	11 (9)	0 (0)
W. N. Central ⁴	5 (1)	0 (0)	1 (0)	0 (0)	6 (1)	0 (0)
S. Atlantic ⁵	14 (3)	12 (10)	7 (3)	1 (0)	34 (16)	1 (1)
S. Central ⁶	4 (2)	10 (3)	4 (4)	0 (0)	18 (9)	0 (0)
Western ⁷	1 (0)	2 (0)	1 (1)	0 (0)	4 (1)	0 (0)
United States.....	28 (9)	33 (20)	30 (22)	3 (0)	94 (51)	1 (1)

- ¹ From Animal Husbandry Research and Animal Health Divisions, ARS, as reported
- ² Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Penns
- ³ Illinois, Indiana, Michigan, Ohio, and Wisconsin.
- ⁴ Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, and South Dakota.
- ⁵ Delaware, Florida, Georgia, Maryland, North Carolina, South Carolina, Virginia
- ⁶ Alabama, Arkansas, Kentucky, Louisiana, Mississippi, Oklahoma, Tennessee, and
- ⁷ Arizona, California, Colorado, Idaho, Montana, Nevada, New Mexico, Oregon, Ut

January 1-June 30, 1965, and comparison with January 1-June 30, 1964¹
of followup investigations reported)

June 30, 1965					January 1-June 30, 1964		
TYPHOID				Grand total	Followup investi- gations	Grand total	Followup investi- gations
3 wks. to 5 mo.	Over 5 mo.	Age not reported	Total				
<u>Number</u>	<u>Number</u>	<u>Number</u>	<u>Number</u>	<u>Number</u>	<u>Percent</u>	<u>Number</u>	<u>Percent</u>
1 (0)	4 (4)	0 (0)	5 (4)	26 (19)	73	22 (11)	50
0 (0)	0 (0)	0 (0)	0 (0)	11 (9)	82	20 (12)	60
1 (0)	1 (0)	2 (1)	4 (1)	10 (2)	20	17 (6)	35
1 (0)	1 (0)	0 (0)	3 (1)	37 (17)	46	51 (14)	27
1 (0)	1 (1)	0 (0)	2 (1)	20 (10)	50	43 (21)	49
0 (0)	0 (0)	0 (0)	0 (0)	4 (1)	25	4 (2)	50
4 (0)	7 (5)	2 (1)	14 (7)	108 (58)	54	157 (66)	42

cooperating laboratories.
ania, Rhode Island, and Vermont.

and West Virginia.
xas.
Washington, and Wyoming.

Summary of Pullorum and Typhoid Isolations and Followup Investigations, January 1-June 30, 1965, and comparison with January 1-June 30, 1964¹
(Figures in parentheses indicate number of followup investigations reported)

Regions	January 1-June 30, 1965												January 1-June 30, 1964	
	PULLORUM					TYPHOID					Grand total	Followup investigations	Grand total	Followup investigations
	Under 3 wks.	3 wks. to 5 mo.	Over 5 mo.	Age not reported	Total	Under 3 wks.	3 wks. to 5 mo.	Over 5 mo.	Age not reported	Total				
	<u>Number</u>	<u>Number</u>	<u>Number</u>	<u>Number</u>	<u>Number</u>	<u>Number</u>	<u>Number</u>	<u>Number</u>	<u>Number</u>	<u>Number</u>	<u>Number</u>	<u>Percent</u>	<u>Number</u>	<u>Percent</u>
N. Atlantic ²	1 (1)	5 (4)	13 (10)	2 (0)	21 (15)	0 (0)	1 (0)	4 (4)	0 (0)	5 (4)	26 (19)	73	22 (11)	50
E. N. Central ³	3 (2)	4 (3)	4 (4)	0 (0)	11 (9)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	11 (9)	82	20 (12)	60
W. N. Central ⁴	5 (1)	0 (0)	1 (0)	0 (0)	6 (1)	0 (0)	1 (0)	1 (0)	2 (1)	4 (1)	10 (2)	20	17 (6)	35
S. Atlantic ⁵	14 (3)	12 (10)	7 (3)	1 (0)	34 (16)	1 (1)	1 (0)	1 (0)	0 (0)	3 (1)	37 (17)	46	51 (14)	27
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Western ⁷	1 (0)	2 (0)	1 (1)	0 (0)	4 (1)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	4 (1)	25	4 (2)	50
United States.....	28 (9)	33 (20)	30 (22)	3 (0)	94 (51)	1 (1)	4 (0)	7 (5)	2 (1)	14 (7)	108 (58)	54	157 (66)	42

¹ From Animal Husbandry Research and Animal Health Divisions, ARS, as reported by cooperating laboratories.
² Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, and Vermont.
³ Illinois, Indiana, Michigan, Ohio, and Wisconsin.
⁴ Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, and South Dakota.
⁵ Delaware, Florida, Georgia, Maryland, North Carolina, South Carolina, Virginia, and West Virginia.
⁶ Alabama, Arkansas, Kentucky, Louisiana, Mississippi, Oklahoma, Tennessee, and Texas.
⁷ Arizona, California, Colorado, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, and Wyoming.

The effectiveness of tracing sources of pullorum disease and fowl typhoid depends upon prompt reporting (on Form NPIP 29) by the isolating laboratory and effective followup investigations. Listed below are reports of pullorum and typhoid (as serotyped by the National Animal Disease Laboratory) from poultry source isolations not identified by NPIP 29 number January 1-June 30, 1965. Each report represents one or more culture(s) typed.*

Regions	PULLORUM					TYPHOID					Grand total
	Under 3 wks.	3 wks. to 5 mo.	Over 5 mo.	Age not reported	Total	Under 3 wks.	3 wks. to 5 mo.	Over 5 mo.	Age not reported	Total	
North Atlantic..	2	0	3	0	5	0	0	3	0	3	8
E. No. Central..	5	1	3	0	9	0	0	0	0	0	9
W. No. Central..	1	0	2	3	6	0	0	1	1	2	8
So. Atlantic....	9	1	3	1	14	1	1	2	0	4	18
So. Central.....	5	3	1	4	13	0	0	2	1	3	16
Western.....	1	0	0	1	2	0	0	0	0	0	2
United States...	23	5	12	9	49	1	1	8	2	12	61

North Atlantic States: Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, and Rhode Island.
 E. No. Central States: Illinois, Indiana, Michigan, Ohio, and Wisconsin.
 W. No. Central States: Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, and South Dakota.
 South Atlantic States: Delaware, Florida, Georgia, Maryland, North Carolina, South Carolina, Virginia, and West Virginia.
 South Central States : Alabama, Arkansas, Kentucky, Louisiana, Mississippi, Oklahoma, Tennessee, and Texas.
 Western States.....: Arizona, California, Colorado, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, and Wyoming.